

Abstract

Testing a transformer by applying to the transformer a test signal, the frequency of which may be lower than the nominal frequency of the transformer. The voltage of the test signal may also be lower than the nominal voltage of the transformer. A number of frequency-dependent parameters are measured, particularly the eddy current resistance and the hysteresis curve of the transformer, in order to derive a simulation model which simulates the behavior of the transformer at different frequencies. Using this simulation model, it is possible to predict operating parameters of the transformer, such as the terminal voltage on the secondary and the terminal current in the secondary, during operation with a frequency deviating from the frequency of the test signal, particularly during operation with the nominal frequency of the transformer.